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- Anal segment without tufts before the barred area..... 51.
51. Comb of the eighth segment a row of bars..... 52.
Comb of the eighth segment a patch of spines..... 53.
52. Bars in one single uniform row; body glabrous..... *Melanoconion melanurus*.
Bars spine-like, in an irregular row; body pilose..... *Melanoconion atratus*.
53. Tube very long, concave, the tip a little wider..... *Culex territans*.
Tube long, but tapered to tip..... 54.
54. Antennæ not white banded; tube somewhat fusiform..... *Culex pipiens*.
Antennæ usually conspicuously white banded; tube tapered..... 55.
55. Tube longer, over four times as long as wide..... 56.
Tube shorter, four times as long as wide, not over..... *Culex tarsalis*.
56. Tufts of the tube scattered, fine, irregular..... *Culex salinarius*.
Tufts of tube along middle of posterior margin only, rather large... *Culex secutor*.

BRIEF NOTES ON MOSQUITO LARVÆ.

BY HARRISON G. DYAR, A.M., PH.D.,

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CORRECTION OF THE ACCOUNT OF CULEX CONSOBRINUS DESV. — I described this larva from specimens sent by Messrs. Dupree and Morgan (Journ. N. Y. Ent. Soc., xi, 24, 1903), and expressed some doubt both there and at another time (Proc. Ent. Soc. Wash., vi, 39, note, 1904), whether the young larvæ were correctly associated. We have lately received from Dr. Dupree a full set of specimens of all stages, and it shows that the first ones were wrongly associated. There is no such remarkable change as those specimens indicated.

The eggs are laid in curved, boat-shaped masses, as in *pipiens*. The first-stage larvæ have the antennæ longer than the mouth brushes with a single hair at the middle; tube thick, about two and a half times as long as wide, with the outer half weakly infuscated, the pecten of four branched teeth with the usual tuft, composed of one hair, at about the middle of the pecten, very near the base of the tube. Anal segment with a dorsal plate and dorsal tuft of four hairs and one smaller side hair. Lateral comb of the eighth segment of five long, sharp spines. In stage ii the antennæ are as long as the mouth brushes only, with a tuft at the middle; the tuft of the air tube consists of two hairs, situated at the base of the posterior incision of the chitin, the pecten of seven branched teeth and two remote, longer, unbranched ones. The comb of the eighth segment is three rows

deep, the small spines with feathered tips. In stage iii the antennæ are the same; the tuft on the tube consists of several hairs, is situated as before, opposite the middle of the branched pecten, which is followed by several long, hair-like pectinations. Anal segment with a dorsal plate, several tufts before the barred area; comb teeth of the eighth segment with feathered tips. In the fourth stage the hair-like pecten on the air-tube is increased and elongated, while the anal segment becomes ringed by the plate. The antennæ are not changed.

IDENTITY OF *CULEX IMPIGER* WALK. — The form referred to by me under this name (Proc. Ent. Soc. Wash., vi, 37, 1904) has since been described as *pullatus*, while of the two forms referred to by Mr. Knab and myself (Proc. Ent. Soc. Wash., vi, 144, 1904), the first is *pullatus*, the second *trichurus*. This leaves the larva of *impiger* unknown; but I am glad to be able to adopt for it the one identified by Messrs. Felt and Young (Science, n. s., xx, 312, 1904), which Dr. Felt has kindly communicated to me. It closely resembles *sylvestris*, but differs therefrom in the longer anal segment, the chitinous plate of which appears longer than wide from side view and is deeply incised laterally.

LARVA OF *DEINOCERITES CANCER* THEOB. — We have received this larva from Kingston, Jamaica, through the kindness of Dr. M. Grabham. It has the general structure of *Culex*. The eyes are small but transverse, double; antennæ small, slender, uniform, with single hair tuft at the middle. Comb of the eighth segment a large patch of very small scales many rows deep, irregular in size and with divided tips. Air tube slender, four times as long as wide, a little tapered apically; two rows of pecten of few teeth, followed by a single hair on each side, the pecten teeth strongly furcate. Anal segment ringed by the plate, a dorsal patch and a small ventral one before the brush well chitinized, the sides nearly colorless. Anal processes absent, replaced by an annular cushion which is weakly divided into halves.

The larva is a very distinct one.

LARVA OF *HOWARDINA WALKERI* THEOB. — This larva also was communicated to us by Dr. Grabham, from Anchona, Jamaica, 5,000 feet altitude. It is extremely characteristic, being of the *Uranotania* form with the characters accentuated. All the hair tufts, except the lateral thoracic and those of the anal segment, are of the stellate form, composed of numerous short hairs. The head is smooth, rounded; antennæ short with hair at the middle. Abdominal segments, except in the intersegmental area, darkened by numerous small black spicules.

Comb of the eighth segment a single row of long sharp spines united by chitin at the base. Air tube about twice as long as wide, slightly tapered, the long spine-like pecten running from the base to the apex, enclosing a fine hair tuft at the outer third. Anal segment triangular, short on ventral line, about four fifths encircled by the plate which is fringed with long spines behind. Ventral brush with a small plate of chitin on each side of the barred area. Anal processes four, slender, filiform, tapering to a point, about as long as the anal segment, not tracheate.

LARVA OF *GRABHAMIA CURRIEI* COQ. — This was collected by Miss Isabel McCracken at Stanford, Cal. and by Mr. O. A. Johannsen at Ithaca, N. Y. It is of the ordinary short-tubed *Culex* type, yet rather characteristic by the extremely short anal processes, which are mere slight protuberances, shorter than in *sollicitans*. The head is dark brown, spotted with blackish much as in *cantator*; antennæ small with tuft at the middle; eyes large. Body hairs rather short, much as usual; abdominal tracheæ wide, band-shaped. Air tube two and a half times as long as wide, the pecten long, spine-like, evenly set, without detached teeth, branched at base, followed by a hair tuft a little beyond the middle of the tube. Comb of the eighth segment of about 25 scales in a multiple row the single scales broad and divided at tip. Anal segment with dorsal plate reaching half way down the sides, irregular on its termen. Ventral brush with a few hairs before the barred area.

NOTE ON *CULEX CANTATOR* COQ. — The larvæ occurred at Weekapaug, R. I., mixed with *sollicitans* in the temporary salt pools on the marshes and also in fresh water grassy marshes a little further from the sea. Professor Smith's figure of the larva (Bull. 171, N. J. Agr. Exp. Sta., pl. vii, 1904) brings out the main structural points, but is faulty in the representation of the anal segment, which is only about three fourths ringed by the plate, not completely so as there shown.

HIBERNATION OF *MELANOCONION MELANURUS* COQ. — We were under the impression that this matter had gone on record, but such is evidently not the case, since Dr. Felt says recently (N. Y. State Mus., Bull. 79, 337, 1904) "the adult hibernating." This species is very peculiar in hibernating as the mature larva; we know of no parallel case. Mr. Brakeley has demonstrated the fact beautifully. The large larvæ in the pools in the late fall cannot be made to pupate but persist in hibernating. In the spring, however, after the ice is well melted they will pupate, though the larva is always deliberate about its trans-

formations. We believe that this species always hibernates as full grown larva and not in any other manner.

IDENTITY OF *CULEX ABFITCHII* FELT. — This is the form described as "*cantans* 1" by Mr. Knab and myself (Proc. Ent. Soc. Wash., vi, 143, 1904). What Dr. Felt calls *cantans* is a third form, figured as *cantans* by Dr. J. B. Smith and which we had not previously distinguished. It will be found defined in the preceding table. The comparison of European material is now more urgently needed than before.

LARVA OF *MELANOCONION ATRATUS* THEOB. — Mr. Theobald has published a photograph of this larva (Mon. Culic., III, pl. xvi, 1903), but the enlargement is insufficient to bring out any of the distinctive characters. I have received the species from New Orleans, from Dr. Dupree (through Dr. Howard). It belongs in the *territans* group and falls near *melanurus*, but the spines of the comb are in a less regular row than in that species, while the whole body is minutely pilose.

Class I, HEXAPODA.

Order IX, HEMIPTERA.

A LIST OF CERTAIN FAMILIES OF HEMIPTERA OCCURRING WITHIN SEVENTY MILES OF NEW YORK.

By J. R. DE LA TORRE BUENO,

NEW YORK, N. Y.

(Continued from Vol. XII, page 253.)

Family PENTATOMIDÆ.

In this family I follow the classification and nomenclature employed in the most recent American authoritative discussion of the group, "Annotated List of the Pentatomidæ Recorded from America North of Mexico," by Mr. E. P. Van Duzee. (Trans. Am. Ent. Soc., No. 1, Vol. xxx, 1904.)

Subfamily CORIMELÆNINÆ.

Genus *CORIMELÆNA* White.

C. unicolor de Beauvois (= *helopioides* Wolff = *atra* Amyot & Serville).

Jamesburg, N. J., August 5; Newfoundland, N. J., May and July; Staten Id., N. Y., June 12 and 23; West Hebron, N. Y., August; Van Cortlandt Pk., N. Y. September 19; Westfield, N. J., July 7.